

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A plasma source assembly comprising:

an outer shield;

a dielectric chamber wall;

a helical coil provided between said outer shield and said dielectric chamber wall;

a coil insulator coupled to at least one coil turn of said helical coil and between adjacent coil turns of said helical coil; and

a coil support means for a cooling rod coupled to the coil insulator to hold the coil insulator and said at least one coil turn in a predetermined position thereby facilitating repeatable performance of said helical coil.

Claim 2 (Original): The plasma source assembly according to Claim 1, wherein said outer shield comprises a plurality of plates.

Claim 3 (Original): The plasma source assembly according to Claim 1, further comprising means for tuning said helical coil to a predetermined frequency.

Claim 4 (Original): The plasma source assembly according to Claim 1, wherein said dielectric chamber wall and said outer shield define a resonator cavity, and wherein said helical coil is provided within said resonator cavity.

Claim 5 (Currently Amended): The plasma source assembly according to Claim 4, further comprising:

~~means for securing said helical coil within said resonator cavity; and~~

means for circulating cooling fluid throughout said resonator cavity.

Claim 6 (Original): The plasma source assembly according to Claim 4, further comprising a plenum cooling plate defining a manifold configured to supply cooling fluid to said resonator cavity.

Claim 7 (Original): The plasma source assembly according to Claim 6, further comprising means for removing bubbles from the cooling fluid, wherein:

said helical coil has an upper end affixed to said resonator cavity and open to a supply side of said plenum cooling plate; and

an upper part of said resonator cavity has a return opening configured to return the cooling fluid to a return chamber of said plenum cooling plate.

Claim 8 (Currently Amended): The plasma source assembly according to Claim 6, wherein said cooling rod is a first cooling rod said plenum cooling plate is configured to supply cooling fluid to [[a]] said first cooling rod provided within said resonator cavity.

Claim 9 (Original): The plasma source assembly according to Claim 8, wherein:

said first cooling rod is provided radially outside said helical coil; and

said first cooling rod has at least one outlet hole configured to discharge the cooling fluid in a circumferential direction within said resonator cavity.

Claim 10 (Original): The plasma source assembly according to Claim 8, wherein said plenum cooling plate is configured to receive cooling fluid from a second cooling rod provided within said resonator cavity.

Claim 11 (Original): The plasma source assembly according to Claim 10, wherein:
said second cooling rod is provided radially inside said helical coil; and
said second cooling rod has at least one inlet hole configured to receive the cooling fluid from within said resonator cavity.

Claim 12 (Original): The plasma source assembly according to Claim 10, further comprising a spacer provided between said first cooling rod and said second cooling rod.

Claim 13 (Currently Amended): The plasma source assembly according to Claim 12, further comprising other coil insulators abutting said spacer and provided between said first cooling rod and said second cooling rod, wherein said coil insulator and other coil insulators have holes configured to receive said helical coil.

Claims 14-40 (Canceled).

Claim 41 (New): A plasma source comprising:
an outer shield;
a dielectric chamber wall coupled to said outer shield to form a resonator cavity;
a helical coil provided within said resonator cavity; and
a plurality of cooling rods configured to circulate cooling fluid throughout said resonator, said cooling rods being coupled to said helical coil to hold the helical coil in a predetermined position.

Claim 42 (New): The plasma source of Claim 41, wherein said helical coil comprises a plurality of coil turns, the plasma source further comprising a plurality of coil insulators each provided on said a different coil turn of said helical coil.

Claim 43 (New): The plasma source of Claim 42 wherein said plurality of coil insulators are aligned in a row and in contact so as to provide predetermined spacing between the coil turns.

Claim 44 (New): The plasma source of Claim 43, wherein each of said coil insulators includes an alignment groove and one of said cooling rods fits within the alignment grooves to align the coil insulators.